## (12) INTERNATIONAL APPLICATION PUBLISHED IN ACCORDANCE WITH THE INTERNATIONAL PATENT COOPERATION TREATY (PCT)

## (19) Worldwide Organization for Intellectual Property International Office

(43) International Publication Date April 7, 2005 (04/07/2005)

PCT

(10) International Publication Number WO 2005/030520 A1

- (51) International Patent Classification (IPC Class)7: B60K 31/00, 17/356, 6/04, B62D 11/04
- (21) International Reference Number:

PCT/EP2004/010542

(22) International Application Date:

September 20, 2004 (09/20/2004)

(25) Language submitted in:

German

(26) Publication Language:

German

(30) Priority Data: 103 43 640.5

5 S

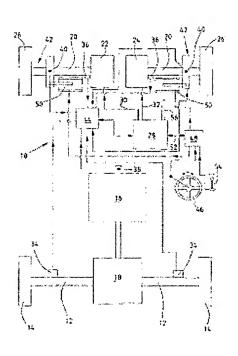
September 20, 2003 (09/20/2003)

DE

- (71) Applicant (for all designated countries with the exception of the U.S.): DEERE & COMPANY [DE/US]; One John Deere Place, Moline, IA 61265-8098 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for the U.S. only): TARASINSKI, Nicolai [DE/DE]; Gotthilf-Salzmann-Str. 60, 67227 Frankenthal (DE). SOBOTZIK, Joachim [DE/DE]; Bürgermeister-Wingerter-Str. 26a, 67245 Lambsheim (DE). REINARDS, Marco [DE/DE]; Poststr. 15, 54608 Bleialf (DE). KNEER, Bernd [DE/DE]; Heidelberger Str. 30, 68519 Viernheim (DE).
- (74) Attorneys: HOLST, Soenke et al.; Steubenstr. 36-42, 68163 Mannheim (DE).

[continued on the following page]

(54) Title: STEERING SYSTEM FOR AN AGRICULTURAL OR INDUSTRIAL UTILITY VEHICLE AND METHOD FOR OPERATING A STEERING SYSTEM (German title)



(57) Abstract: The invention relates to a steering system for an agricultural or industrial utility vehicle, especially for a tractor. An electric drive (22, 24) is provided for each half of an axle, preferably a front axle (20), of the utility vehicle (10). Said electric drive can-be driven by [drive] at least one wheel (26) associated with each axle half. The electric drive (22, 24) can be controlled in such a manner that predetermined torque can be transmitted from the electric drive (22, 24) to the wheel (26) which is being driven [it drives]. Preferably, the wheels (14) associated with a mechanical drive axle. particularly a rear axle (12), of the utility vehicle (10) can be driven by a mechanical drive (16, 18) of the utility vehicle (10). The invention also relates to a method for operating a steering system. The aim of the invention is to enable traction forces to be transmitted by the wheels (26) driven by the electric drives (22, 24), even when the utility vehicle (10) negotiates bends, whereby particular braking torque should be prevented on said wheels (26) in specific steering angles. The torque which is to be transmitted to the wheel on the outside of the bend is greater than the torque which is to be transmitted to the wheel on the inside of the wheel-[bend] in order to support or effect the steering of the utility vehicle.

[German abstract continued on the following page]

## WO 2005/030520 A1

- (81) Designated Countries (for any available national type of protection unless otherwise specified): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
- (84) Designated Countries (for any available national type of protection unless otherwise specified): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,

ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## **Published**

with international search report.

For explanations of the two-letter codes and other abbreviations please refer to the explanations ("Guidance Notes on Codes and Abbreviations") at the beginning of each regular issue of the PCT Gazette.